

Application No. 10/675,419
Response dated February 9, 2007
to Final Office Action mailed October 11, 2006

REMARKS

The Examiner has rejected claims 1, 3, 11, 14, 17 and 19 under 35 U.S.C. 102(e) as being anticipated by Takizawa U.S. Patent No. 6,472,127. Claims 2, 4-5, 9-10 and 18 are rejected under § 103(a) as being unpatentable over Takizawa in view of Phan et al. U.S. Patent No. 6,136,514. Claims 6-8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Takizawa in view of Ogata U.S. Patent No. 5,845,170. Claims 12-13 and 15-16 are rejected under § 103(a) as being unpatentable over Takizawa in view of Hayasaki et al. U.S. Patent Application Publication No. 2004/0029026. Claims 20-21, 23-25, 28, 31 and 34-35 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Takizawa in view of Phan et al. Claim 22 is rejected under § 103(a) as being unpatentable over Takizawa in view of Phan et al., and further in view of Maemori et al. U.S. Patent Application Publication No. 2002/0058202. Claims 26-27 are rejected under § 103(a) as being unpatentable over Takizawa in view of Phan et al., and further in view of Ogata. Claims 29-30 and 32-33 are rejected under § 103(a) as being unpatentable over Takizawa in view of Phan et al., and further in view of Hayasaki et al.

As amended herein, each pending claim includes the feature that a sacrificial surfactant-containing liquid is applied to pre-wet the resist film and then the sacrificial surfactant-containing liquid is displaced by the developing solution. As set forth in the previous response, Takizawa, alone or in combination with Phan et al., Ogata, Hayasaki et al., or Maemori et al., does not teach displacing a surfactant-containing liquid with a developing solution, and in particular, does not teach a pre-wetting the resist with a sacrificial liquid that is displaced with the developing solution. To the contrary, Takizawa forms a surfactant layer 18 on the surface of the resist layer that includes hydrophobic groups 19 attached to the resist layer, and hydrophilic groups 20 attached to the hydrophobic groups. The hydrophilic groups provide adherence for the developing solution. Takizawa states "the surface of the photoresist film 12 is hydrophilic as the surfactant layer 18 containing the hydrophilic groups is formed on it in advance by coating. Therefore, reattachment of the developing solvent component is relaxed." This surfactant layer 18 is an adherent chemical film designed to modify the resist film by changing its surface from

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hydrophobic to hydrophilic. The surfactant layer 18 is not merely a sacrificial layer designed to wet the surface, but rather, is a chemically functional layer that attaches to the resist surface. There is no displacement of the surfactant layer 18 by the developing solution as alleged by Examiner, rather, the developing solution is applied over the surfactant. The Examiner points to Col. 8, lines 37-45 for support of his position, but Applicant finds no teaching or suggestion in that passage that the surfactant layer is sacrificial, and that the developing solution displaces the surfactant layer. Because Takizawa does not disclose each and every element of the claimed invention, namely application of a sacrificial pre-wetting liquid to the resist layer and displacement of that liquid by a developing solution, there can be no anticipation of the claims, and it is respectfully requested that the rejection under § 102 be withdrawn. Neither Phan et al., Ogata, Hayasaki et al., nor Maemori et al. teach or suggest that the developing solution displaces a sacrificial pre-wetting surfactant, such that none of the secondary references provide the missing teaching or suggestion when combined with Takizawa. Thus, it is respectfully requested that the rejection under § 103 be withdrawn.

Applicants assert that the amendments made herein clarify the position that Applicant put forth in the prior response, and do not raise new issues requiring further search. Entry of the amendment after final is respectfully requested. A notice of appeal is also filed herewith, and so if the amendments made herein are not deemed to place the application in condition for allowance, entry for purposes of appeal is requested.

In view of the foregoing amendments to the claims and remarks given herein, Applicants respectfully believe this case is in condition for allowance and respectfully request allowance of the pending claims. If the Examiner believes any detailed language of the claims requires further discussion, the Examiner is respectfully asked to telephone the undersigned attorney so that the matter may be promptly resolved. The Examiner's prompt attention to this matter is appreciated.

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Applicants are of the opinion that a one-month extension of time is due with this Amendment. Payment of all charges due for this filing is made on the attached Electronic Fee Sheet. If any additional charges or credits are necessary to complete this communication, please apply them to Deposit Account No. 23-3000.

Respectfully submitted,

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